Annual Habitat Work Plan – 2003

Parker River National Wildlife Refuge
Newburyport, Massachusetts

Background:

Parker River National Wildlife Refuge is currently developing a habitat management plan for its management. The Refuge finalized a master plan in 1986; however, much of the wildlife goals and objectives from that planning effort are out of date. Current habitat management programs implemented on the Refuge includes Early Successional Habitat Management, Impoundment Management, Salt Marsh Restoration, and most recently, Invasive Plant Monitoring and Control.

Early successional habitat management

Habitat Objectives

- Manage Refuge lands for a diversity of mammal and non-migratory species at optimum population levels by providing a wide range of habitats at various successional stages (Master Plan 1986).

Consistent with this goal from the 1986 Master Plan, Refuge staff has been maintaining certain areas in early successional habitats (fields and open shrublands). The fields adjacent to the impoundments were historically mowed to provide goose browse, and have continued to be mowed every year. The North Pool Field, south portion of the Bill Forward Field, Cross-Farm Drumlin, Stage Island Drumlin, and Nelson's Island are maintained as open fields. The north portion of Bill Forward Field is maintained as early successional shrub habitat. North Pool Field and the Bill Forward Field were mowed by Refuge maintenance staff using in early August. Stage Island, Cross-Farm, and Nelson's Island were mowed and hayed through a contract with a local farmer in September.

Habitat Response

In 2003, we achieved the objective of maintaining a mosaic of early successional habitat by mowing the management units described above. The north portion of the Bill Forward Field was mowed in a mosaic pattern to maintain the open shrub habitat. In the other units, milkweed, aster, and goldenrod stands were not mowed to provide feeding areas for monarch butterflies during fall migration.

Response of Resource of Concern

No wildlife response is monitored. American woodcocks, white-tailed deer, and wild turkeys are observed utilizing the early successional habitats. The early successional habitat adjacent to the Bill Forward Pool provides lekking grounds for American woodcock. Deer and striped skunks are often found feeding in the open fields.

Proposal Year: Management Strategy Prescriptions

The above referenced areas will all be mowed in 2004.

The North Pool Field will be completely mowed in late August after ground nesting birds such as Bobolinks have fledged young. A few small areas that support cranberries will not be mowed in the lower elevations to provide wildlife browse and berry picking opportunities for the visiting public.

The Bill Forward, Stage Island and Nelson Island Fields will be mowed in late August in a mosaic pattern, leaving small stands of milkweed and other wild flowers for butterfly use during fall migration.

Habitat Management Documentation

None.

Invasive Plant Management

Invasive plant control has been implemented on the Refuge since the 1960's; however, efforts have mainly focused in the impoundments until recently. Invasive plant control in the Refuge impoundments is considered part of impoundment management. For more information on impoundment management, see 2003 Impoundment Management Report.

The interim objectives for invasive plant control on the rest of the Refuge are:

- Identify and map all invasive plant species on Parker River and Thacher Island National Wildlife Refuge by 2004.
- Implement invasive plant control projects that (1) are likely to be eradicated from the Refuge and Sandy Point State Reservation; (2) provide educational and outreach opportunities to the public; and (3) threaten plants, animals, and communities of management concern.

Habitat Response

No control was implemented outside of the Refuge impoundments in 2003. The Refuge initiated invasive plant mapping in 2003 and to date, have completed approximately 80 percent of the Refuge. Mapping will continue and should be completed in 2004.

Response of Resources of Concern

No control was implemented outside of the Refuge impoundment in 2003.

Proposal Year: Management Strategy Prescriptions

See attached 2004 Invasive Plant Control Program.

Habitat Management Documentation

Enclosed: 2004 Pesticide Use Plan

Impoundment Management

Habitat Objectives

These objectives (from 1995 Marsh & Water Management Plan) are designed to support the overall goals of Parker River National Wildlife Refuge and the National Wildlife Refuge System. The objectives of the marsh and water management program are as follows:

- Control pest plant vegetation in Refuge wetland.
- Increase the habitat and vegetative diversity of the impoundments for a diversity of migratory birds (*emphasis on fall migratory waterfowl*).
- Implement shorebird management for the fall migration at selected impoundments.
- Protect and enhance habitat for non-game birds, particularly those with decreasing populations.
- Protect and manage wetland habitat for State and Federally-listed endangered species.
- Prevent and control waterfowl disease outbreaks.

SMART objectives should read:

The Bill Forward and Stage Island Pools total approximately 160 acres (63 and 100 acres respectively). Of these acres only a portion is actually manageable, therefore it is proposed to conduct active management on 20 of the 60 acres in Bill Forward Pool and 40 of the 100 acres within the Stage Island Pool. The objective will be measured by monitoring vegetation and wildlife response to management activities. It is proposed to control invasive and/or robust plants within the treatment areas, maintain a portion of the area as mudflats for shorebird use and to encourage germination of preferred waterfowl plant foods during fall migration.

Habitat Response

See attached 2003 Impoundment Management Report.

Response of Resources of Concern

See attached 2003 Impoundment Management Report.

Proposal Year: Management Strategy Prescriptions

North Pool
Continue with ongoing study to determine feasibility of restoring impoundment back to a self-sustaining tidal marsh. Commence NEPA process and continue work with partners to determine preferred restoration alternative.

Bill Forward Pool

The Bill Forward Pool (BFP) totals about 60 acres and is separated from the North Pool by a cross dike. This impoundment provides excellent foraging areas for fall migratory shorebirds as the pool edges (mud flats) become exposed during the late summer months.

Water levels will be lowered using a high capacity water pump in conjunction with removing stop logs in the water control structure (WCS). The WCS is set at elevation above average pool bottom and therefore is not capable of dewatering the pool in of itself..

In FY 2004 we propose a gradual spring drawdown beginning 2 weeks prior (early May) to the arrival of shorebirds. Water levels will be gradually reduced to a point where approximately 10% of the pool is comprised of mud-flats and shallow water (0-10cm). Continue drawdown throughout migration period of about 2-3cm/week. Collect bi-weekly water level and salinity readings.

Robust vegetation which dominates the eastern portion of the pool will be mowed in August. A small test plot of 5 acres will be disked using a roto-tiller attachment. Water levels will be allowed to reflood naturally after the completion of the fall shorebird migration and prior to the onset of the waterfowl migration. Vegetation transects will document plant response to the various mechanical manipulations within this impoundment.

Stage Island Pool

The Stage Island Pool (SIP) is located about 5 miles south of the NP & BFP and totals about 100 acres. This impoundment has the greatest potential for moist soil management due to its gradual sloping pool bottom elevations and lack of an elongated borrow ditch. However, the lack of a freshwater source continues to provide challenges in controlling invasive vegetation.

Since the majority of the pool was mowed late last fall, the water levels will be maintained at full pool level to discourage the growth of phragmites, loosestrife and cattail. If necessary, limited amounts of salt water will be let in to help maintain higher water levels. Salinity readings should not exceed 20ppt. Water will be kept at full pool elevation throughout the growing period and a late season drawdown will be conducted in mid to late summer to dry out the impoundment for equipment access. The robust vegetation will be mowed in late summer and a 5 acre test plot will be disked using the roto-tiller attachment. Standardized biweekly birds surveys will be conducted to

document species presence and use within each impoundment. Biweekly water level and salinity readings will be recorded to monitor prescription objectives. Vegetation transects will be performed in September to document the plant response to water level management, mowing, disking and herbicide use to control invasive plants. Data will be entered into a database and compared to previous years results.

Habitat Management Documentation
Enclosed: 2004 Pesticide Use Plan and 2004 Marsh and Water Management Plan.

Salt Marsh Restoration

Habitat Objectives
Salt marsh restoration using open marsh and water management (OMWM) techniques have been ongoing at Parker River National Wildlife Refuge since 1991 through a partnership with the Northeast Mosquito Control District. In 2000, the Refuge signed up to participate in the Region 5 OMWM Study. There are no established objectives for the salt marsh restoration study. The goals of the program are:

- Return high water table and normal flooding regimes to marshes altered or damaged by grid-ditching, resulting in improved Service trust resource habitats and increased high marsh natural biodiversity.

- Provide satisfactory long-term biological control of saltmarsh mosquitoes in order to reduce or eliminate chemical pesticide use on Service lands.

In 2003, through the continued partnership with the Northeast Mosquito Control District, approximately 40 acres of salt marsh (includes B1 study site) was restored. Since 1991, approximately 80 acres of salt marsh has been restored.

Habitat Response
Vegetation and water chemical are being monitored as part of the ongoing regional study. 2003 is the first year of post-restoration monitoring, and the data is currently being analyzed by USGS Patuxent Wildlife Research Center.

Response of Resources of Concern
Macroinvertebrate, bird use, and mosquito breeding data are being monitored as part of the ongoing regional study. 2003 is the first year of post-restoration monitoring, and the data is currently being analyzed by USGS Patuxent Wildlife Research Center.

Proposal Year: Management Strategy Prescriptions
In 2004, another 27 acres of salt marsh will be restored using OMWM techniques. Habitat and wildlife monitoring will continue in the study areas for another 2-3 years.

Habitat Management Documentation
None.